

Claims

- [c1] 1. A system of resource based virtual communities where each community composes of the all users of the specific resource and whenever a person accesses or uses the resource, he automatically becomes part of the community. With people from all over the world who do not know each other linked together when they access the same resource, they form the community based on that resource.
- [c2] 2. The system of claim 1, further comprising:
Every resource in the Internet or in the world can have one corresponding virtual community and every user in the Internet can participate to multiple virtual communities.
- [c3] 3. The system of claim 1, where:
Resources are web resources in the Internet that can be directly accessible using web browsers include any web site, any web page, and newsgroup or discussion forum.
- [c4] 4. The system of claim 1, where:
The virtual communities are based on resources other than web resources such as software products, bulletin

boards, games FTP site, newsgroup, files, images, photos, or any other products that multiple people can share or use.

[c5] 5. The system of claim 1, where:

Every resource is identified by a unique URL or other kind of unique name.

[c6] 6. The system of claim 1, where:

The system can automatically join the user to the virtual community at the same time the user is accessing or using the resource, where no explicit login is required. Of course, the user can provide login info if the user chooses to be recognized by the username the user chooses.

[c7] 7. The system of claim 1, where:

The virtual communities can provide their members useful feedbacks, comments, reviews and references or other useful information for the resource.

[c8] 8. The system of claim 1, where:

Users of the virtual community can communicate with the community and to each other; if they are all online, real time communication is also possible; when they are offline, messages can be delivered to them next time users joined.

- [c9] 9. The system of claim 1, further comprising:
Once users join the virtual community when they access the resource, they can also access all services provided by the community, such as making comments, publishing reviews, rating the resource, writing notes, sending (instant) messages, sharing whiteboard, or chatting with others or even the whole community.
- [c10] 10. The system of claim 1, where:
Members of the virtual communities can participate collaboration activities such as helping each other, asking and answering questions, exchanging ideas, interests matching, scheduling meetings, online auction, on-line dating, broadcasting or other campaign such as marketing or advertisement.
- [c11] 11. The system of claim 1, where:
All current community members can be notified when a new user joins the community or leaves the community, in real time.
- [c12] 12. The system of claim 1, where: Members of virtual communities can communicate with other virtual communities or people outside the resource based virtual communities.
- [c13] 13. The system of claim 1, where:

At the same time users are using the web resource, browsing web or using software, the virtual community based on that resource can provide user dynamic status about the community such as statistical information of the resource, hit counts, comments, ratings, reviews, or any other information that can help new users to decide the value of the resource.

[c14] 14. The system of claim 1, where:

The current virtual community information can be presented to user through a separate channel, in a separate window, popup dialog or other means or embedded in the users' content that enhance users' using experience on resource.

[c15] 15. The system of claim 1, where:

Where virtual community members can extend the communities by adding new services, creating new activities to the communities.

[c16] 16. The system of claim 1, where:

The resources are private resources in the local area network where the resources still can be uniquely identified URL.

[c17] 17. The system of claim 1, further comprising:

Authentication can be enabled for those communities in

the community servers and various means of security can be enforced such as username password, cookies or any other kind of security mechanism.

[c18] 18. The system of claim 1, where:

The virtual community functions are provided by each web server through setting up communities for current web page viewers.

[c19] 19. The system of claim 1, where:

The virtual community functions are provided by each web server through contacting other virtual community servers based on every URL request that the user is accessing and then sending both results of the request and the community information back to the client.

[c20] 20. The system of claim 1, where:

Community server is set up behind firewalls in local area networks which limit the members to all users from within the same intranet.

[c21] 21. The system of claim 1, further comprising:

The user can set preference to allow the system to protect his privacy or determine whether to sign him to the virtual community automatically or not, whether to be shown as anonymous user or invisible users.

[c22] 22. The system of claim 1, where:

Users are also uniquely identified either by a selected user name or by its IP address so that one user can join with multiple virtual communities; send or receive messages with members from other communities.

[c23] 23. The system of claim 1, where:

The system can keep track of all those virtual communities that the user has visited so far with user's permission.

[c24] 24. The system of claim 1, where:

Every virtual community can organize their information, contents or services in hierarchy, hypertext or web format so that users can explore them virtual communities by following links or directly browsing.

[c25] 25. The system of claim 1, where:

The virtual community server keeps track of all statistical information for every resource based virtual community likes hit counts, total users, current online users, users' ratings or comments about each resource.

[c26] 26. The system of claim 1, where:

People from all over the world are connected together in the community: they either have used the same resource, or are using the resource now or will use the resource in the future.

- [c27] 27. The system of claim 1, where:
The virtual communities are private communities based on private resources that allow access to only authorized users.
- [c28] 28. The system of claim 1, further comprising:
Different virtual communities based on different resources can be grouped together to form larger communities which cover similar resource, topics, or subjects.
- [c29] 29. The system of claim 1, where:
The virtual communities can be reached from a central web site and searched by various keywords, topics or selected from categories, similar to any other kinds of communities.
- [c30] 30. The system of claim 1, where:
The virtual communities can perform customized filtering for communities and contents based on settings from users, systems, communities or others.
- [c31] 31. A method to connect to a virtual community based on the same web resource by going through a special virtual community proxy or gateway server in users' browsers settings so that:
All users' browsers will go first to the proxy server before connecting to the destination; The proxy server for-

wards the request to the destination resource and returns results back;

In addition, the proxy server can automatically join the virtual community based on the new resource the user just visited;

The proxy server can also return virtual community information to the users as well.

[c32] 32. The method of claim 31, where:

The proxy settings are set manually by user or automatically set by an installation program.

[c33] 33. The method of claim 31, where:

The virtual community proxy server settings and additional connections are transparent to users.

[c34] 34. The method of claim 31, where:

The virtual community proxy server can act as a proxy server or to redirect access to any resource in the Internet.

[c35] 35. The method of claim 31, where:

The virtual community proxy server can be implemented by frames, URL forwarding, CGI or other kind of relaying technique.

[c36] 36. The method of claim 31, where:

The virtual community proxy server can do further filter-

ing over the contents or communities that are provided to users.

[c37] 37. A method to connect to a virtual community based on the same web resource by installing a custom toolbar button or context menu on user's browser. Whenever the user starts to browse any web resource, the user can click on the toolbar button or context menu to connect and signup to the virtual community based on the current resource being accessed.

[c38] 38. The method of claim 37, where:
The toolbar or context menu functions installed manually by users or automatically by browsers.

[c39] 39. The method of claim 37, where:
The virtual community page triggered by user clicking on the toolbar button or selecting from the context menu is displayed in a separate frame, popup window or balloon window.

[c40] 40. A method to connect to a virtual community based on the same web resource by installing a standalone application or special software agent to monitor the web request from web browsers. For each web request in the browser, the special software agent discovers the request and automatically connects to virtual community

for that resource based on web request that user is accessing.

[c41] 41. The method of claim 40, where:

The standalone software is a customized browser.

[c42] 42. The method of claim 40, further comprising:

The special monitor software agent can be implemented by hooking into the protocol handling chain; or using a protocol filter, kernel driver or customized content handler; or listening to the system or windows event from browsers; or hooking into process, system or network APIs.

[c43] 43. The method of claim 40, where:

The special software agent can make multiple connections to multiple virtual communities at the same time to allow people involve in multiple communities.

[c44] 44. A method to connect to a virtual community based on the same web resource by using additional browser plugin or helper objects that can integrate with users' existing web browsers so that it can detect all users' browsing activities and start separate connections to the virtual community based on the presently accessed web resource, sign up and retrieve the current community information.

[c45] 45. The method of claim 44, where:

The browser plugin objects include browser helper objects, plugins, applets, java script or flash, ActiveX object, content, dynamic html, connection or protocol filters and any other type of software extensions.

[c46] 46. The method of claim 44, where:

The browser plugin objects can be installed either manually or automatically without user intervening.

[c47] 47. The method of claim 44, where:

The browser plugin objects display the current community information to users in any form that help users' main browsing activity in a non-disrupting way such as in the context menu, status bar, popup window, balloon help message, task bar or even embedded inside the current web page.

[c48] 48. The method of claim 44, where:

The plugin objects can make multiple connections to multiple virtual community servers at the same time.

[c49] 49. The method of claim 44, where:

The plugin objects can provide additional authorization to allow users to access private communities based on private resources.

[c50] 50. A method to access the virtual communities based on software product usage that composes the following steps:

For each software used, attaches the software with a special helper object;

The helper object is started automatically when the main software is used;

Once started, the helper object can connect to the virtual community based on the software used by the user and allow user to participate communities activities through the helper object.

[c51] 51. The method of claim 50, where:

The helper object can be a special component, shared object, dynamic library, driver or other extensions.

[c52] 52. The method of claim 50, where:

Users can get immediate help from, communicate and interact with other users of the same software everywhere at the same time in the world through the helper object.

[c53] 53. The method of claim 50, where:

The software extension can be generic for almost all kinds of software as long as it can be started and running along with the software itself.

[c54] 54. The method of claim 50, where:

The helper object can be statically linked to the targeting software component or it can hook into systems and monitor system events so it can be started together with the original software.

[c55] 55. The method of claim 50, further comprising:

A single helper object can be installed in one computer that can recognize all currently running software and handle the virtual communities for multiple or all software in the system.

[c56] 56. The method of claim 50, where:

Users using the same software at the same time can be connected to the community, and ask for help, look for comments, FAQ, and reviews, or chat with other expert users.

[c57] 57. The method of claim 50, where:

The resource is any other software, product, or service available to users that are not Internet based.

[c58] 58. The method of claim 50, where:

The resource is not being used in a computer connecting to the Internet, such as a PDA, cellular phone or any other non computer related product such as audio, video, or other commodities.

- [c59] 59. The method of claim 50, where:
the helper object can reside in the main window of the software application; seamlessly integrate with the main application for new functions and features, services and applications from or to the communities.
- [c60] 60. A global universal virtual community server system to provide ways to map various resources to different virtual community areas by resource URL:
The universal community server composes the following:
a global user database that holds all possible users in the Internet that are accessing any resource in the Internet;
Various virtual community areas or sub servers to hold the community information, data and links of all current community users in the users' database;
Mapping mechanisms to map any resource URL to the given virtual community area, or map from any known user identify, given email or IP address, to a particular user entry in the global user database;
Request dispatcher to dispatch all users' requests in the Internet to the corresponding virtual community area or sub servers by the resource URL.
- [c61] 61. The system of claim 60, where the virtual community area or sub servers are stored in directories, files, or

databases, either locally or in distributed machines.

[c62] 62. The system of claim 60, where:

The universal virtual community server can be a group of servers.

[c63] 63. The system of claim 60, further comprising:

The global user database can be implemented in files, database in local system or distributed systems.

[c64] 64. The system of claim 60, where:

Every virtual community area or sub servers are created on demand, or in the fly only when the first user starts to access the virtual community.

[c65] 65. The system of claim 60, where:

The global user database may create a new user only when a new user entry is queried and it does not yet in the database.

[c66] 66. The system of claim 60, where:

Each virtual community sub server can be simply a web server or web pages.

[c67] 67. The system of claim 60, where:

Each virtual community area contains information about current online users, total hit counts, bulletin boards and comments left by other users.

[c68] 68. The system of claim 60, where:

Every virtual community area also composes of many server side components that support user and community interactivity and activities such as signing on a new user, logging out a user, sending messages, and any other services.

[c69] 69. The system of claim 60, where:

Various server side technologies from server side script, CGI, Servlet, asp to recent web services and weblog can be used in every virtual community area or sub servers.

[c70] 70. The system of claim 60, where:

The global user database can keep the current status of individual users' information, including its identifier, current status such as whether online or offline.

[c71] 71. The system of claim 60, where:

The global user database stores users' personal data like messages from other people, preferences or settings such as privacy, security settings.

[c72] 72. The system of claim 60, further comprising:

The universal community server can link or group different communities areas or sub servers together to form a larger community for a bigger scope of resources.